



**Center director's all-hands meeting  
9 a.m. Dec. 2 in Morris Auditorium**

## Marshall engineers report 1,700 meteors per hour at peak of Leonids shower

by Tracy McMahan

Engineers and scientists working around the clock in the Leonid Environment Operations Center at Marshall recorded a peak of some 1,700 Leonids meteors an hour about 8 p.m. CST Nov. 17.

This intense Leonids activity was most visible over Europe and the Middle East, with 40 to 60 meteors per hour being sighted over North America.

The Leonids shower happens every year when Earth passes close to the orbit of the comet Tempel-Tuttle and the debris left in the comet's path. As Earth travels through the comet dust, the debris burns up in Earth's atmosphere, and observers typically see about 10 to 20 shooting stars an hour.

This year, Marshall engineers reported a peak of 1,700 Leonids meteors per hour, with even more counted in some individual reports. This higher number of meteors was observed because Earth passed only about 68,000 miles (110,000 kilometers) from the comet debris cloud.

"The peak occurred within 20 minutes of the time the computer models predicted it would occur," said Dr. Jeff Anderson, who was among the Marshall engineers staffing the Leonid Environment Operations Center. "That's a very good

*See Leonid on page 2*



Photos by Emmett Given, NASA/Marshall Space Flight Center

**Bobby Money, left, and Brett Smith, right, two of more than 60 Marshall volunteers, share information about the Marshall Center and NASA with the 4,500 students visiting Alabama A&M University on NASA/High School Senior Day Nov. 20.**



### NASA/High School Senior Day

**E.C. Smith, left, assistant director of Marshall's Engineering Directorate and alumnus of the University of Arkansas-Pine Bluff, tosses the coin to start the football game. Arkansas-Pine Bluff beat Alabama A&M 23-17.**

## NASA administrator announces Fellowship Program

Program administrators for the NASA Administrator's Fellowship Program (NAFP) will be at Marshall Tuesday to give a briefing on the program requirements and to answer questions employees may have regarding this competitive program.

This briefing, for employees interested in the program and for their supervisors, will be from 10-11:30 a.m. in Bldg. 4200, room P110. To attend, e-mail Vanessa Suggs or call 544-7527.

The fellowship program is designed to enhance professional development of

NASA employees and the science, mathematics and engineering faculty of minority-serving institutions.

NASA career employees are invited to teach and/or conduct research, not to exceed one academic year, at one of the minority-serving institutions. They also will participate in developmental assignments at NASA Headquarters, another government agency, the National Research Council, in the private sector, and/or at other organizations.

NASA employee fellows will retain

their current salaries and status. To be eligible, applicants must be full-time career employees of NASA at a level of GS-13 or above and must be recommended by the Center director. NASA employees must sign a service agreement that they will continue to work at NASA for two years following the fellowship tenure.

**"Do It Safely or Don't Do It"**

— Safety slogan submitted by  
**Ralph Allen, AD22**

## 'One Orbit Around Utah'

# Marshall provides first-hand experience to students and teachers

The Marshall Center took the space program on the road to Utah Nov. 4-19 to provide middle-school students and teachers a chance to experience "space" first-hand.

The six-city tour, "SpaceTalk 2000: One Orbit Around Utah," featured a presentation on Utah's role in America's space program, exhibits and teacher workshops. The Marshall Center and U.S. Sen. Robert F. Bennett of Utah sponsored the event in partnership with several NASA contractors and Utah educational organizations.

Approximately 15,000 students viewed a presentation on Utah's space role and participated in a Space Fair featuring Marshall exhibitry highlighting the X-33, X-34, Space Shuttle and Advanced Space Transportation programs. While students attended the Space Fair, more than 200 teachers participated in workshops using Marshall's Mobile Educator Research Center.



Courtesy photos

Students from Ephraim, Utah, visit NASA exhibits set up at Snow College in Ephraim.



Vicki Smith, left, of Huntsville City Schools, and Alease Sims, right, Marshall's Education Resource Center coordinator, talk with Utah teachers about NASA educational programs and materials.



Dr. Chris Barret, a liquid propulsion engineer at Marshall, talks with students at Cross Hollows Intermediate School in Cedar City, Utah, about Marshall's space transportation programs.

## Leonid

*Continued from page 1*

prediction. We've gained valuable knowledge of the Leonid Meteor shower and confirmed the accuracy of the computer model used to predict meteor showers."

Information on meteor activity and intensity was distributed to NASA and U.S. Air Force satellite operators to ensure safe satellite operations. Although a typical meteor is smaller than a grain of sand, it travels more than 40 times the speed of a bullet. Meteor impacts can impair satellites and their sensitive sensors.

"The joint Leonids operation center worked extremely well," Anderson said. "Representatives of NASA, the U.S. Air

Force and the University of Western Ontario in Canada came together to form a great team."

Early last Thursday morning, Marshall scientists launched a weather balloon with a camera that recorded images of meteors streaking across the sky and the sounds of meteors burning up in Earth's atmosphere. Video and sound recordings, downlinked from the balloon to the Marshall science Web site, can be viewed at:

<http://www.Leonidslive.com>

*The writer, a contractor employed by ASRI, supports the Media Relations Department.*

## Job Opportunities

**Reassignment Bulletin 00-1-CP, AST, Aerospace Flight Systems, GS-861-13/14,** Science Directorate, Science System Department, Spaceflight Experiments Group. Closes Dec. 1.

**CPP 00-13-RE, AST, Aerospace Flight Systems, GS-861-14,** Space Transportation Directorate, ISSPM Propulsion Module Project Office. Closes Nov. 30.

**CPP 00-10-RE, Supervisory AST, Aerothermodynamics, GS-861-15,** Space Transportation Directorate, Subsystem & Component Development Department, Fluid Physics & Dynamics Group. Extended to Nov. 29.

**CPP 00-08-CV, Computer Specialist (System Analyst), GS-334-9 (potential to GS-12),** Customer & Employee Relations Directorate, Plans and Systems Analysis Office. Closes Dec. 7.





**Blake Anderson**  
Hernandez Engineering  
Inc.



**Jack Beasley**  
QS10

## Marshall employees, contractors to see launch of STS-103

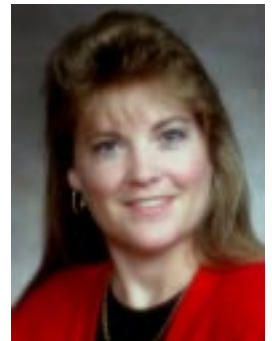
**T**hirty-one Marshall employees and contractors are being honored for their significant contributions to the space program. The honorees will be hosted by NASA at Kennedy Space Center, Fla., for the scheduled Dec. 9 launch of STS-103. The primary objective of STS-103 is the servicing of the Hubble Space Telescope.



**Harold R. Bencaz**  
MP31



**Pamela A. Bourque**  
LS01



**Becky D. Brewer**  
RS01



**Steve Chrisman**  
Southern Food  
Service Management



**Stuart Clifton**  
ED03



**Archie D. Coleman**  
ED27



**Michael L. Culver**  
Ai Signal Research  
Inc.



**Kenneth A. Dodd**  
Computer Sciences  
Corp.



**Tony R. Fiorucci**  
TD63



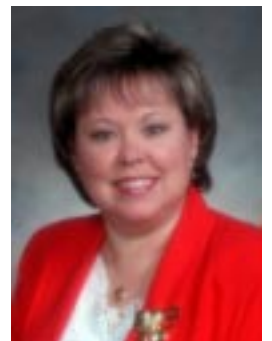
**Venus A. Fletcher**  
FD32



**Rodney P. Grubbs**  
AD32



**Gene A. Hartsfield**  
FD21



**Debra Hendon**  
AD21

## Shuttle honorees

*Continued from page 3*



Sharon Kaye Inman  
FD31



Isaac W. Jones Jr.  
PS10



Michael H. Kynard  
MP21



John M. McDougal  
ED04



Adonna L. Mitchell  
FD10



John L. Ormsby  
ED17



James R. Riquelmy  
TD12



Eric J. Shaw  
VS20



Wanda Siddall  
ED04



Donald Smith  
Precision Fabricating &  
Cleaning Inc.



Ronnie Smith  
EG&G Technical  
Services Inc.



Randy L. Stevens  
Sverdrup Technology  
Inc.



Stephen E. Thornton  
MP51



Ela M. Washington  
CD20



Cathy White  
ED14



Fredrick M. Whitman  
Pratt & Whitney

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***Marshall Center's  
safety goal:  
Be No. 1 in safety  
within NASA!***

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## Upcoming Events

### ***Tree Lighting and Holiday Reception*** —

Marshall's Christmas tree lighting and annual holiday reception will be Dec. 15. The tree lighting will be at 9 a.m. on the front lawn of Bldg. 4200, followed by the director's reception from 9:30 a.m.-12:30 p.m. in Bldg. 4752. The entertainment program includes performances by Marshall's Child Development Center, Sharon Hancock, Luis Trevino's Christmas Trumpet Carols, and a Barber Shop Quartet. A food/toy drive will be conducted during the time leading up to the reception. Donations will earn raffle tickets for prizes from the NASA Exchange. Three cans of food earns one ticket; a new toy earns three tickets. Collection times for the food/toy drive will be 11 a.m.-1 p.m. Tuesdays and Thursdays at the Bldgs. 4203 and 4610 cafeterias, and in front of Charlie's Grill in Bldg. 4200 until Dec. 14. There will be a table at the reception for last-minute donations. Collected food items will be donated to the No. Alabama Food Bank and collected toys will be donated to Christmas Charities Year Round. Center employees, retirees and contractors are invited to participate in the festivities. Shuttle services will be provided.

***Rick Bachtel Retirement Reception*** — A retirement reception honoring Rick Bachtel, former deputy director of the Space Transportation Directorate, will be held from 4-6 p.m. Dec. 9 in the Bldg. 4203 cafeteria. Tickets, at \$7.50 each, can be purchased from administrative officers.

***NASA Exchange Nut Sale*** — The NASA Exchange annual nut sale is under way. Sales will be from 9 a.m.-4 p.m., Monday-Friday (excluding holidays) in the Marshall Activities Bldg. Prices are: pecans 16 oz., \$5.50; natural almonds 12 oz., \$2.50; salted (in shell) natural pistachios 16 oz., \$3.60; English walnuts 16 oz., \$3.25; cashews 16 oz., \$5.50; raw peanuts 16 oz., \$2; chocolate-covered pecans 16 oz., \$7; hickory smoked almonds 12 oz., \$3; and honey roasted almonds 12 oz., \$3.

***MARS Ballroom Dance Club Christmas Dinner Dance*** — The MARS Ballroom Dance Club will hold a Christmas dinner dance at 6:30 p.m. Dec. 11 in the Von Braun Center East Hall. The semi-formal event includes a buffet dinner. The Nite Owls band will play ballroom dance music from 8-11 p.m. Tickets — at \$25 per person with a \$5 discount for club members — can be purchased from Hugo Berry at 544-3525. To reserve a table for eight, call Woody Bombara at 650-0200.

***Information Technology Training*** — A three-day course, Risk Management and Security Policy Development, is being offered Dec. 7-9, location to be determined. The training will address the often complex world of information technology security policy, plans and risk management procedures. For more information, call Chris Robinson at 544-1422.

## Volunteer today for a safer tomorrow

Marshall civil service and contractor employees are invited to volunteer for teams that will help the Center meet standards set by the Occupational Safety and Health Administration's Voluntary Protection Program (VPP).

"These teams will help us meet the standards set by the OSHA VPP to reach our safety goal of establishing the Marshall Center as No. 1 in safety within NASA," said Kristie French, VPP project manager. "By taking individual responsibility and volunteering for one of the teams, you can help provide a safe and healthy workplace for you and your fellow workers."

### **Teams**

The teams and their assignments include:

- **Worksite Analysis Team** — Examine processes for recognizing and reporting hazards and implementing corrective actions; includes process analyses, job hazard analyses and mishap reporting.
- **Hazard Control Team** — Examine processes for hazard controls such as emergency procedures, preventive measures and protective devices.
- **Safety and Health Training Team** — Help improve safety and health training for Marshall employees Centerwide and include job-specific safety training, department-level safety meetings, VPP and DuPont training.
- **Management and Employee Involvement Team** — Encourage employee involvement and management commitment.
- **Safety Documentation/Records Team** — Assist the process of safety records maintenance and documentation.
- **Safety Communication Team** — Participate in spreading safety messages and data throughout the Marshall community.
- **VPP Application Team** — Prepare the application for OSHA by reviewing and presenting the safety and health programs at Marshall by VPP guidelines.

### **Volunteers**

To volunteer, call French at 544-7474, or visit the VPP Web site for additional information at:

<http://vpp.msfc.nasa.gov:2000/>

If you have a safety-related story you would like to share, call Judy Milburn at 544-4802 or Angela Storey at 544-0632 to share your lessons learned with the Center.

## Countdown to Y2K 36 Days Left

The NASA Personnel/Payroll System is compliant and payroll checks will be delivered.

Courtesy of Information Services Department

## Employee Ads

## Miscellaneous

- ★ Bass boat, 17'6", TM, DF, w/115 HP Johnson motor. \$1,900. 837-4136
- ★ Air hockey table, \$20. 721-0617
- ★ DP weight bench w/leg extension/leg curl attachment, \$25. 883-7187
- ★ Music CDs: Rod Steward, A Spanner in the Works, All Time Greatest Movie Songs (Titanic, etc.) and others, \$5 ea. 533-5942
- ★ Sony Play Station w/2 controllers, demo disk, and 12 games, \$250. 882-2323
- ★ Pentium II 400 Mhz. Celeron computer, \$800. 851-0704
- ★ 1997 Alpine car tape deck/radio and six-disk changer, \$250 obo. 880-6808
- ★ Fisher Price tournament table, \$40. 837-0996
- ★ Used baby stroller (mainly blue w/pink and green, \$75; used playpen, \$10. 728-5890
- ★ Hoyt Rebel youth hunting bow, \$125; exercise bicycle, DP AirDyne, \$50. 883-6416
- ★ Variety of Longaberger baskets, 1984-1997, call for list. 828-7703
- ★ Purebred Australian Shepherd puppies, 6 weeks, all colors, vet checked, wormed and first shots, \$75. 561-2287
- ★ Roll top desk, birch, cherry finish, \$100; oak entertainment center, \$125. 232-1940
- ★ Washer and dryer, almond, \$95 each, \$185 for pair. 881-6040
- ★ New six-quart pressure cooker, \$15; new dual-control electric blanket, full size, \$50. 859-5088
- ★ Johnson outboard motor, 4HP, \$495. 830-2903
- ★ Bedroom suite: dresser, chest, nightstand, and full-size headboard, \$500. 536-8951
- ★ Sony 200 CD changer. 881-7935
- ★ Stihl 16" chainsaw, \$125; Soloflex home gym w/ butterfly and leg extension attachments, \$375. 971-9710
- ★ Two cemetery plots, Huntsville Memory Gardens, w/bronze name stone, \$1,000. 536-3435
- ★ Boy's Giant Mountain bike, blue, 18 speeds, \$150 obo. 890-7730 after 4 p.m.
- ★ Large wooden desk, \$100; computer desk, \$40; queen floral quilt, \$60; manual treadmill, \$30. 534-0939
- ★ Kenmore, 21 cu. ft. refrigerator w/ice maker, almond, \$325. 461-4525
- ★ Changing table, dark brown wicker w/4 compartments, \$20; Graco stroller, \$15. 971-0518

- ★ Custom-made solid oak corner entertainment center, \$650; matching bookcase, 7' tall, \$225. 881-5093
- ★ Entertainment center, lots of shelves, solid wood, hand built, dark stain, \$350. 859-8764
- ★ Walnuts, \$4 per 50-lb. bag. Firewood, oak and hickory, \$30 per pickup load, you haul. 880-2290

## Vehicles

- ★ 1992 Toyota Camry, automatic 2.2L, 4-cylinder, light blue, 150K miles, airbag, \$5,500. 859-1547/726-8645
- ★ 1980 CJ-7 Jeep, runs but needs work, best offer. 650-7201
- ★ 1995 Ford Windstar LX minivan, champagne metallic, 3.8 V-6, all power, luggage rack, 77K miles, \$11,600. 772-3631
- ★ 1995 Mercury Sable GS, 89K miles, \$5,100. 721-9749
- ★ 1995 Jeep Wrangler SE, red w/black soft top, 6-cylinder, 5-speed, 4.0L, 59K miles, security console, \$11,000. 882-7350
- ★ 1996 Mazda 626 LX, V6, 55K miles, spoiler, moon roof, \$11,100. 574-5098 after 5:30 p.m.
- ★ 1996 Ford Explorer XLT, red w/gray leather, 2wd, running boards, 6 CD-player, \$15,500. 828-7382
- ★ 1997 Jeep Wrangler, red w/black soft top, 6 cyl., 5-speed, 4.0L, a/c, aluminum wheels, 75K miles. 355-1353
- ★ 1988 Maxima, low mileage tires, brakes and CV joints, keyless entry, 127K miles, \$4,200. 883-2237

## Wanted

- ★ Sofa in good condition, earthtone colors, or sofa sleeper. 772-3800

## Found

- ★ Ladies watch in Marshall Fitness Center. 882-9417
- ★ TI-30X calculator, found in Marshall taxi. Call 544-8294
- ★ Hair bow, Bldg. 4200. 544-4758 to identify

## Center Announcements

- ✦ **NASA Exchange Book Fair** — The semi-annual book fair, sponsored by the NASA Exchange, will be held from 8 a.m.-4 p.m. Dec.

7-9 in Bldg. 4203, room 1201. A selection of best sellers, cookbooks, decorating, sports and children's books will be available for purchase at substantial savings. There will be daily drawings at 11 a.m. and 2 p.m. to win a free book of your choice. For more information, call Michele Miller at the NASA Exchange at 544-7564.

- ✦ **MARS Tennis Club Party** — The MARS Tennis Club end-of-season meeting and party will be held at 4:45 p.m. Dec. 2 in Bldg 4203, room 1201. All tennis club members are invited. The meeting/party will include: announcement of new officers and rules changes, awarding of league, group tournament and sportsmanship trophies, presentation of 1999 Budget report, and eating and fun.

- ✦ **AGA, Military Comptrollers Meet** — The North Alabama Chapter of the Association of Government Accountants (AGA) and the American Society of Military Comptrollers will hold a joint meeting at 11:30 a.m. Dec. 9 at Trinity Personal Growth Center on Airport Road. The cost for lunch is \$11. For reservations, call Sandy Seymour at 544-0099.

- ✦ **Photo Lab Retirees Meet** — Photo lab retirees will meet at 9:30 a.m. Dec. 7 at Shoney's at University Drive and Memorial Parkway. For more information, call Charles Allen at 852-0917.

- ✦ **Habitat for Humanity** — Habitat for Humanity of Madison County will address, sign, stamp and mail holiday cards purchased through Habitat for Humanity for \$5 each. Each purchase is tax deductible. For more information, call 533-2282.

- ✦ **Girl Scout Cookies** — Area Girl Scouts are taking advance orders through Dec. 5 for Girl Scout Cookies to be delivered in January. Cookies are \$3 per box. To locate a local Girl Scout troop, call 1-800-410-8338.

- ✦ **NASA/Marshall Retirees Association** — The NASA/Marshall Retirees Association will meet at 6:30 p.m. Dec. 7 at the Valley Hill Country Club. Cost of the meal is \$16 per person. Advance reservations are required, but payment can be made at the door. Spouses and guests are welcome. For more information, call Ellery May at 881.2553.

- ✦ **MARS Ballroom Dance Club** — The MARS Ballroom Dance Club will offer swing and foxtrot lessons on Nov. 29 in the Parish Hall of St. Stephen's Episcopal Church at 8020 Whitesburg Drive. Intermediate classes will start at 7 p.m. and beginner classes at 8 p.m. The lessons will be taught by Don Worrell and cost \$4 per person. For more information, call Linda Kinney at 544-0563.

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